

promulgates regulations, binding on all federal agencies, to implement the procedural provisions of the National Environmental Policy Act (NEPA). The regulations address the administration of the NEPA process, including preparation of environmental impact statements for major federal actions which significantly affect the quality of the human environment. On August 9, 1985, CEQ published a proposed amendment to one of these regulations (40 CFR 1502.22), which addresses incomplete or unavailable information in an environmental impact statement (EIS). 50 FR 32234. After reviewing the comments received in response to that proposal, the CEQ now issues the final amendment to that regulation. The final amendment requires all federal agencies to disclose the fact of incomplete or unavailable information when evaluating reasonably foreseeable significant adverse impacts on the human environment in an EIS, and to obtain that information if the overall costs of doing so are not exorbitant. If the agency is unable to obtain the information because overall costs are exorbitant or because the means to obtain it are not known, the agency must (1) affirmatively disclose the fact that such information is unavailable; (2) explain the relevance of the unavailable information; (3) summarize the existing credible scientific evidence which is relevant to the agency's evaluation of significant adverse impacts on the human environment; and (4) evaluate the impacts based upon theoretical approaches or research methods generally accepted in the scientific community. The amendment also specifies that impacts which have a low probability of occurrence but catastrophic consequences if they do occur, should be evaluated if the analysis is supported by credible scientific evidence and is not based on pure conjecture, and is within the rule of reason. The requirement to prepare a "worst case analysis" is rescinded.

The existing guidance regarding 40 CFR 1502.22, found in Question 20 of *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, 46 FR 18032 (1981), is hereby withdrawn. Guidance relevant to the amended regulation will be published after the regulation becomes effective.

EFFECTIVE DATE: May 27, 1986.

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COUNCIL ON ENVIRONMENTAL QUALITY

40 CFR Part 1502

National Environmental Policy Act Regulations; Incomplete or Unavailable Information

AGENCY: Council on Environmental Quality, Executive Office of the President.

ACTION: Final rule.

SUMMARY: The Council on Environmental Quality (CEQ)

SUPPLEMENTARY INFORMATION:**Executive Order 12291**

Under Executive Order 12291, CEQ must judge whether a regulation is major and, therefore, whether a Regulatory Impact Analysis must be prepared. This regulation does not satisfy any of the criteria specified in section 1(b) of the Executive Order and, as such, does not constitute a major rulemaking. As required by Executive Order 12291, this regulation was submitted to the Office of Management and Budget (OMB) for review. There were no comments from OMB to CEQ regarding compliance with Executive Order 12291 in relationship to amendment of 40 CFR 1502.22.

Paperwork Reduction Act

The information collection requirements in this proposed rule were submitted for approval to OMB under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* No comments were submitted by OMB or the public on the information collection requirements.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, CEQ is required to prepare a Regulatory Flexibility Analysis for proposed regulations which would have a significant impact on a substantial number of small entities. No analysis is required, however, when the Chairman of the Council certifies that the rule will not have a significant economic impact on a substantial number of small entities. Accordingly, I hereby certify, pursuant to 5 U.S.C. 605(b), that this final amendment would not have a significant impact on a substantial number of small entities.

Environmental Assessment

Although there are substantial legal questions as to whether entities within the Executive Office of the President are required to prepare environmental assessments, CEQ, consistent with its practice in 1978, has prepared a special environmental assessment and a Finding of No Significant Impact regarding amendment of this regulation, which is available to the public upon request. For the reasons stated in the Finding of No Significant Impact, CEQ has concluded that the amendment to 40 CFR 1502.22 will not have a significant impact on the quality of the human environment.

Background

The National Environmental Policy Act, signed into law by President Nixon on January 1, 1970, articulated national policy and goals for the nation, established the Council on Environmental Quality, and, among

other federal agencies to assess the environmental impacts of and, among other things, required all federal agencies to assess the environmental impacts of and alternatives to proposals for major federal actions significantly affecting the quality of the human environment. The Council on Environmental Quality, charged with the duty of overseeing the implementation of NEPA, developed guidelines to aid federal agencies in assessing the environmental impacts of their proposals. A combination of agency practice, judicial decisions and CEQ guidance resulted in the development of what is commonly referred to as "the NEPA process", which includes the preparation of environmental impact statements for certain types of federal actions.

Because of complaints about paperwork and delays in projects caused by the NEPA process, and a perception that the problem was caused in part by lack of a uniform, binding authority, CEQ was directed in 1977 to promulgate binding regulations implementing the procedural provisions of NEPA. (Executive Order 11991, 3 CFR 123 (1978). Council was directed to specifically: "make the environmental impact statement process more useful to decisionmakers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives." After undertaking an extensive process of review and comment with federal, state and local governmental officials, private citizens, business and industry representatives, and public interest organizations, the Council issued the NEPA regulations on November 29, 1978. 40 CFR 1500-1508 (1978). The regulations were hailed as a "significant improvement on prior EIS guidelines", (Letter, Chamber of Commerce of the United States, January 8, 1979), and became effective for, and binding upon, most federal agencies on July 30, 1979, and for all remaining federal agencies on November 29, 1979.

Since promulgation of the NEPA regulations, the Council has continually reviewed the regulations to identify areas where further interpretation or guidance is required.¹ No broad support

for amendment of the regulations surfaced during review under the 1981 Vice President's Regulatory Relief Task Force; indeed, some recommended that, "CEQ's streamlining regulations for the implementation of NEPA requirements should receive full support from the Administration and the federal agencies". (Letter, National League of Cities, May 14, 1981). Although continual attention is required to ensure that the mandate of the regulations is being fulfilled, the regulations appear to be generally working well.

During the past two and a half years, however, the Council has received numerous requests from both government agencies and private parties to review and amend the regulation which addresses "incomplete or unavailable information" in the EIS process. That regulation currently reads as follows:

"Section 1502.22. Incomplete or unavailable information.

"When an agency is evaluating significant adverse effects on the human environment in an environmental impact statement and there are gaps in relevant information or scientific uncertainty, the agency shall always make clear that such information is lacking or that uncertainty exists.

"(a) If the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

"(b) If (1) the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are exorbitant or (2) the information relevant to adverse impacts is important to the decision and the means to obtain it are not known (e.g., the means for obtaining it are beyond the state of the art) the agency shall weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty. If the agency proceeds, it shall include a worst case analysis and an indication of the probability or improbability of its occurrence." 40 CFR 1502.22.

On August 11, 1983, the Council proposed guidance regarding the "worst case analysis" requirement and asked for comments on the proposed guidance 48 FR 36486 (1983). The draft guidance suggested that an initial threshold of probability should be crossed before the requirements in 40 CFR 1502.22 became applicable. Although some

¹ See, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, 46 FR 18026 (1981); *Memorandum for General Counsels, NEPA Liaisons and Participants in Scoping*, April 30, 1981 (available upon request from the General Counsel's office, CEQ); *Guidance Regarding NEPA Regulations*, 48 FR 34263 (1983).

commentators agreed with the guidance, others believed that the proposed threshold would weaken analysis of low probability and severe consequences impacts. Other writers suggested different approaches to the issue, or advocated amendment of the regulation rather than guidance. After reviewing the comments received in response to that proposal, the Council withdrew the proposed guidance, stating its intent to give the matter additional examination before publishing a new proposal. 49 FR 4803 (1984).

After many discussions with federal agency representatives and other interested parties in state governments, public interest groups, and business and industry, the Council published an Advance Notice of Proposed Rulemaking (ANPRM) for 40 CFR 1502.22, and stated that it was considering the need to amend the regulation. 49 FR 50744 (1984). The ANPRM posed five questions about the issue of incomplete or unavailable information in an EIS and asked for thoughtful written responses to the questions. The Council received 161 responses to the ANPRM. A majority of the commentators cited problems with the "worst case analysis" requirement, but recognized the need to address potential impacts in the face of incomplete or unavailable information. Many commentators thought that either the regulation itself or recent judicial decisions required agencies to go beyond the "rule of reason". These commentators suggested that the "rule of reason" should be made specifically applicable to the requirements of the regulation. A minority of commentators felt strongly that the original regulation was adequate and should not be amended.

On March 18, 1985, the Council held a meeting, open to the public, to discuss the comments received in response to the Advance Notice of Proposed Rulemaking. 50 FR 9535 (1985). Shortly after that meeting, the Council voted to amend the regulation. On August 9, 1985, CEQ published a proposed amendment to 40 CFR 1502.22 which read as follows:

"Section 1502.22. Incomplete of unavailable information.

"In preparing an environmental impact statement, the agency shall make reasonable efforts, in light of overall costs and state of the art, to obtain missing information which, in its judgment, is important to evaluating significant adverse impacts on the human environment that are reasonably foreseeable. If, for the reasons stated above, the agency is unable to obtain this missing information, the agency

shall include within the environmental impact statement (a) a statement that such information is missing, (b) a statement of the relevance of the missing information to evaluating significant adverse impacts on the human environment, (c) a summary of existing credible scientific evidence which is relevant to evaluating the significant adverse impacts on the human environment, and (d) the agency's evaluation of such evidence. 'Reasonably foreseeable' includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that they have credible scientific support, are not based on pure conjecture, and are within the rule of reason." 50 FR 32238 (1985).

The Council received 184 comments in response to the proposed amendment: 81 comments from business and industry; 39 comments from private citizens; 30 comments from public interest groups; 15 comments from federal agencies; 14 comments from state governments; 4 comments from local governments; and one comment from a Member of Congress.

A majority of the commentators favored an amendment to the regulation, and supported the general approach of the proposed amendment. However, many of these writers offered specific suggestions for improving the proposal. Many commentators asked for definitions of terms used in the proposal, particularly for the phrase "credible scientific evidence." Some commentators wanted the Council to specify a particular methodology, such as risk assessment, as a substitute for a worst case analysis. Many commentators had specific comments about particular words or phrases used in the proposed amendment. Many commentators asked CEQ to provide further guidance or monitoring after the regulation was issued in final form.

A minority of commentators strongly opposed the amendment. Some of these writers were concerned over perceived changes in the first two paragraphs of the original regulation—requirements to disclose the fact that information is missing, and to obtain that information, if possible. Some commentators opposed deletion of the "worst case analysis" requirement. Other commentators believed that the proposed amendment did not require agencies to analyze or evaluate impacts in the face of incomplete or unavailable information. These comments, and others, will be discussed below in the section "Comments and the Council's Response".

On January 9, 1986, CEQ held a meeting, open to the public, to discuss the comments received in response to the proposed amendment. 50 FR 53061 (1985). A summary of the presentation made at that meeting is available from the Office of the General Counsel. Shortly after that meeting, the Council voted to proceed to final amendment of the regulation.

Purpose and Analysis of Final Amendment

CEQ is amending this regulation because it has concluded that the new requirements provide a wiser and more manageable approach to the evaluation of reasonably foreseeable significant adverse impacts in the face of incomplete or unavailable information in an EIS. The new procedure for analyzing such impacts in the face of incomplete or unavailable information will better inform the decisionmaker and the public. The Council's concerns regarding the original wording of 40 CFR 1502.22 are discussed at length in the preamble to the proposed amendment. 50 FR 32234 (1985). It must again be emphasized that the Council concurs in the underlying goals of the original regulation—that is, disclosure of the fact of incomplete or unavailable information; acquisition of that information if reasonably possible; and evaluation of reasonably foreseeable significant adverse impacts even in the absence of all information. These goals are based on sound public policy and early NEPA case law.² Rather, the need for amendment is based upon the Council's perception that the "worst case analysis" requirement is an unproductive and ineffective method of achieving those goals; one which can breed endless hypothesis and speculation.

The amended regulation applies when a federal agency is preparing an EIS on a major federal action significantly affecting the quality of the human environment and finds that there is incomplete or unavailable information relating to reasonably foreseeable significant adverse impacts on the environment. It retains the legal requirements of the first paragraph and subsection (a) of the environment and finds that there is incomplete or unavailable information relating to reasonably foreseeable significant adverse impacts on the environment. It retains the legal requirements of the first paragraph and subsection (a) of the

² See, for example, *Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079 (D.C. Cir. 1973).

original regulation. Thus, when preparing an EIS, agencies must disclose the fact that there is incomplete or unavailable information. The term "incomplete information" refers to information which the agency cannot obtain because the overall costs of doing so are exorbitant. The term "unavailable information" refers to information which cannot be obtained because the means to obtain it are not known. If the incomplete information relevant to adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency must include the information in the EIS. The first paragraph and subsection (a) of the original regulation have been amended only insofar as the phrases "incomplete or unavailable information" (title of the original regulation) or "incomplete information" are substituted for synonymous phrases and the term "reasonably foreseeable" is added to modify "significant adverse impacts". These changes are made for consistency, clarity and readability.

Subsection (b) is amended to require federal agencies to include four items in an EIS if the information relevant to reasonably foreseeable significant adverse impacts remains unavailable because the overall costs of obtaining it are exorbitant or the means to obtain it are not known. The first step is disclosure of the fact that such information is incomplete or unavailable; that is, "a statement that such information is incomplete or unavailable". The second step is to discuss why this incomplete or unavailable information is relevant to the task of evaluating reasonably foreseeable significant adverse impacts; thus, "a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable relevant to evaluating the reasonably foreseeable significant adverse impacts, impacts on the human environment". Fourth, the agency must use sound scientific methods to evaluate the potential impacts; or in the words of the regulation, "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community".

The regulation also makes clear that the reasonably foreseeable potential impacts which the agency must evaluate include those which have a low probability of occurrence but which would be expected to result in catastrophic consequences if they do occur. However, the regulation specifies that the analysis must be supported by

credible scientific evidence, not based on pure conjecture, and be within the rule of reason.

Subsection (b) deletes two substantive requirements from the same subsection of the original regulation, promulgated in 1978. First, it eliminates the requirement for agencies to "weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty" while in the process of preparing an EIS. The Council believes that the weighing of risks and benefits for the particular federal proposal at hand is properly done after completion of the entire NEPA process, and is reflected in the Record of Decision. Nothing, of course, prohibits a decisionmaker from withdrawing a proposal during the course of EIS preparation.

Second, the regulation eliminates the "worst case analysis" requirement. It does not, however, eliminate the requirement for federal agencies to evaluate the reasonably foreseeable significant adverse impacts of an action, even in the face of unavailable or incomplete information. Rather, it specifies that the evaluation must be carefully conducted, based upon credible scientific evidence, and must consider those reasonably foreseeable significant adverse impacts which are based upon scientific evidence. The requirement to disclose all credible scientific evidence extends to responsible opposing views which are supported by theoretical approaches or research methods generally accepted in the scientific community (in other words, credible scientific evidence).

The regulation also requires that analysis of impacts in the face of unavailable information be grounded in the "rule of reason". The "rule of reason" is basically a judicial device to ensure that common sense and reason are not lost in the rubric of regulation. The rule of reason has been cited in numerous NEPA cases for the proposition that, "An EIS need not discuss remote and highly speculative consequences. . . . This is consistent with the (CEQ) Council on Environmental Quality Guidelines and the frequently expressed view that adequacy of the content of the EIS should be determined through use of a rule of reason." *Trout Unlimited v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974). In the seminal case which applied the rule of reason to the problem of unavailable information, the court stated that, "[NEPA's] requirement that the agency describe the anticipated environmental effects of a proposed

action is subject to a rule of reason. The agency need not foresee the unforeseeable, but by the same token, neither can it avoid drafting an impact statement simply because describing the environmental effects of alternatives to particular agency action involves some degree of forecasting. . . . The statute must be construed in the light of reason if it is not to demand what is, fairly speaking, not meaningfully possible. . . ." *Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (D.C. 1973), citing *Calvert Cliffs' Coordinating Committee v. Atomic Energy Commission*, 499 F.2d 1109, 1114 (D.C. Cir. 1971). The Council's amendment supports and conforms with this direction.

The evaluation of impacts under § 1502.22 is an integral part of an EIS and should be treated in the same manner as those impacts normally analyzed in an EIS. The information included in the EIS to fulfill the requirements of § 1502.22 is properly a part of the "Environmental Consequences" section of the EIS (40 CFR 1502.16). As with other portions of the EIS, material substantiating the analysis fundamental to the evaluation of impacts may properly be included in an appendix to the EIS.

Comments and the Council's Response

Comment: CEQ does not make clear the fact that the first paragraph and paragraph (a) of 1502.22 would be eliminated in the proposed amendment. The preamble says nothing about radical changes in the research requirements of the existing regulation.

Response: The changes to the first paragraph and subsection (a) of the existing regulation in the proposed amendment were made primarily for the purpose of attempting to clarify and simplify the existing requirements. However, in response to a number of concerns regarding perceived changes in the legal requirements of these paragraphs, the Council has chosen to retain the original format of the regulation. The Council intends that the substitution of the phrase "incomplete or unavailable information" and "incomplete information" are taken from the title of the regulation itself, and are being inserted for the sake of consistency of terms and clarity.

Comment: The term "reasonable efforts" should be defined.

Response: The term "reasonable efforts" does not appear in the final regulation.

Comment: The proposed amendment drops the standard of "exorbitant costs"

and substitutes "overall costs." Substantively, the current standard should be retained. It is a purposefully high standard, intended to counter agencies' demonstrated reluctance to seek out information. The proposed standard is lax and undefined.

Response: The final regulation retains the original standard.

Comment: The term "state of the art" should be replaced with "the availability of adequate scientific or other analytical techniques or equipment".

Response: The term has been deleted in the final regulation, and the phrase "the means to obtain it are not known" is substituted. That phrase is meant to include circumstances in which the unavailable information cannot be obtained because adequate scientific knowledge, expertise, techniques or equipment do not exist.

Comment: The regulation should make clear that "overall costs" include, among other things, all economic costs and delays in timing. The "overall cost" requirement needs to be further defined to reflect items such as comparing low cost/high cost risk (and vice versa), costs of time in obtaining information, costs of delaying projects, benefit/cost ratio and outyear impact cost.

Response: CEQ intends that the term "overall costs" encompasses financial costs and other costs such as costs in terms of time (delay) and personnel. It does not intend that the phrase be interpreted as a requirement to weigh the cost of obtaining the information against the severity of the impacts, or to perform a cost-benefit analysis. Rather, it intends that the agency interpret "overall costs" in light of overall program needs.

Comment: The term "missing information" should be clarified or changed.

Response: The term "missing information" is deleted in the final regulation, and is replaced with the terms "incomplete or unavailable information" and "incomplete information". These terms are consistent with the title of the regulation.

Comment: The word "material" should be substituted for the word "significant" because the word "significant" is a term of art and incorporates consideration of controversy surrounding a proposal. The word "material" would be more appropriate.

Response: The final regulation retains the term "significant". "Significant" is indeed a term of art which connotes the type of environmental impact which the agency is obligated to analyze in an EIS. Consideration of controversy is one of

many factors which must be considered in determining whether an impact is "significant"; others include the degree to which the proposed action affects public health or safety, unique characteristics of the geographic area such as wetlands, wild and scenic rivers, etc., the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks, the cumulative impacts of an action, whether the action may adversely affect an endangered species or critical habitat, the degree to which an action may adversely affect historic areas, and whether the proposed action would violate another federal, state or local environmental law. 40 CFR 1508.27. The 1978 CEQ regulations differed from the earlier CEQ Guidelines in stating that the fact of controversy does not, alone, require preparation of an EIS; rather, it is one of many factors which the responsible official must bear in mind in judging the context and intensity of the potential impacts.

Comment: The term "in its judgment" gives agencies the administrative discretion to limit the data needed to prepare an EIS. It gives too much discretionary authority to agency officials to decide if they need to obtain the information. Suggest deleting "in its judgment" or adding "and with the concurrence of appropriate federal or state resource agencies".

Related Comment: It is important to allow an agency discretion to determine the extent of the investigation required to obtain information.

Response: The term "in its judgment" is deleted from the final regulation. However, deletion of that phrase is not intended to change the discretion currently vested in the agencies to determine the extent of the investigation required to obtain information. The agency's discretion must be used to make judgments about cost and scientific availability of the information.

Comment: The proposed amendment's definition of "reasonably foreseeable" should be strengthened or clarified or the use of this phrase should be changed.

Response: The term "reasonably foreseeable" has a long history of use in the context of NEPA law, and is included elsewhere in the CEQ NEPA regulations. 40 CFR 1508.8(b). Generally, the term has been used to describe what kind of environmental impacts federal agencies must analyze in an EIS; for example, "... if the [agency] makes a good faith effort in the survey to describe the *reasonably foreseeable* environmental impact of the program, alternatives to the program and their

reasonably foreseeable environmental impact, and the irreversible and irretrievable commitment of resources the program involves, we see no reason why the survey will not fully satisfy the requirements of [NEPA] section 102(C)." *Sierra Club v. Morton*, 379 F. Supp. 1254, 1259 (D. Col. 1974) (emphasis added). See also, *Town of Orangetown v. Gorsuch*, 718 F.2d 29, 34 (2d Cir. 1983); *NRDC v. NRC*, 685 F.2d 459, 476 (D.C. Cir. 1982). The term has also been used in the context of incomplete or unavailable information. See *Scientists' Institute for Public Information v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (D.C. Cir. 1973).

Because of the controversy and nature of this particular regulation, CEQ has specified that in the context of 40 CFR 1502.22, the term "reasonably foreseeable" includes low probability/severe consequence impacts, provided that the analysis of such impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

Comment: To prevent confusion, the proposed amendment should use either the term "credible scientific evidence" or "credible scientific support"—not both.

Response: The final regulation uses the term "credible scientific evidence" and deletes the term "credible scientific support".

Comment: The term "credible scientific evidence" should be defined. (A number of commentators offered specific suggestions for such a definition).

Response: The final regulation states that the agency's evaluation of impacts in the face of incomplete or unavailable information should be based upon theoretical approaches or research methods generally accepted in the scientific community. While this is admittedly a broad and general direction, CEQ is concerned that a narrow definition of "credible scientific evidence" would prove inappropriate in some circumstances, given the wide variety of actions which potentially fall under the auspices of this regulation. In many cases, the Council expects that "theoretical approaches or research methods generally accepted in the scientific community" will include commonly accepted professional practices such as literature searches and peer review.

Comment: The term "credible" should be deleted from the regulation, and all information should be considered.

Response: The definition of the word "credible" is, "capable of being

believed". *Webster's II New Riverside University Dictionary*, 1984. Information which is unworthy of belief should not be included in an EIS.

Comment: The term "scientific" is overly restrictive since measurement of an action's environmental effects may be grounded in, among other things, economic, historical or sociological information.

Response: In an EIS, federal agencies are responsible for analysis of significant environmental effects which include "ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 CFR 1508.8(b). The requirement to analyze these potential impacts or effects are not modified in any manner by the qualified "scientific evidence" in 40 CFR 1502.22. Rather, the term "scientific" is meant to imply that the evidence presented about the possibility of a certain impact should be based upon methodological activity, discipline or study. *Webster's II New Riverside University Dictionary*, 1984.

Comment: The amendment should include some recognized scientific method for evaluating uncertainty, such as, perhaps, a risk assessment approach.

Response: Because of the wide variety of types of incomplete or unavailable information which may potentially fall within the scope of this regulation, CEQ does not choose to specify a particular methodology. Rather, each agency should select that approach which best meets the goals of evaluating potential impacts in the face of unavailable information. Further, a requirement that a particular methodology be utilized might be soon outdated by scientific developments in a particular field.

Comment: The draft preamble states that the summary of credible scientific evidence must include all information from all sources, including minority or opposing viewpoints. What are "minority views" as they relate to credible scientific evidence?

Response: The preamble to the proposed amendment states that the requirement to disclose all credible scientific evidence extends to those views which are generally regarded as "minority views" within the scientific community. The final preamble adopts the term "responsible opposing views" as the preferred term, consistent with 40 CFR 1502.9(b). The requirement to include responsible opposing views reflects the belief that many times, particularly when dealing with questions of incomplete or unavailable information, there will be more than one point of view about potential environmental impacts which has scientific credibility. The regulation

requires an agency to include information about such views which have scientific credibility, rather than simply selecting one concept which supports its particular view. The responsible opposing views, must, of course, meet the criteria set out in subsection (b) of the regulation. Once such information is set out in the EIA, the agency must then use its own judgment and discretion to determine which viewpoint it believes is the most worthy of acceptance.

Comment: CEQ should indicate in the preamble that along with available scientific evidence, the views and conclusions of other government agencies and departments may be considered.

Response: The views and conclusion of other government agencies and departments are appropriately considered throughout the EIS process, beginning with the scoping process. Section 1502.22 does not limit involvement by other federal agencies in that process. Special attention should be paid to the views of those agencies with special expertise or jurisdiction by law in a particular field of inquiry. 40 CFR 1503.1(a)(1). The views of the public, and indeed all interested parties, are, of course also to be considered throughout the EIS process.

Comment: It should be made clear that the summary should be limited to credible scientific evidence only.

Response: This is precisely the requirement of the regulation itself. Again, credible scientific evidence includes both majority views and responsible opposing views, so long as these views meet the criteria in the regulation.

Comment: The regulation should require agencies to state the probability or improbability of the occurrence of the impacts which are identified.

Response: Although this requirement is not part of the final regulation, agencies are free to include this information in the EIS. The Council encourages the inclusion of such data when it is relatively reliable and when such information would help to put the analysis in perspective for the decisionmaker and other persons who read and comment on the EIS.

Comment: The fourth requirement, to include the agency's "evaluation" of the scientific evidence is vague. Presumably, what is meant is not a critique of the evidence, but an application of the evidence to predict impacts.

Response: The fourth requirement has been reworded so that it is clear that the agency is required to evaluate reasonably foreseeable significant

adverse impacts which significantly affect the quality of the human environment.

Comment: There is no requirement for the agencies to analyze impacts—the basic purpose of the regulation.

Response: The fourth requirement clearly states a requirement for the agencies to evaluate the reasonably foreseeable significant adverse impacts.

Comment: The final amendment should require agencies to address high probability/low or chronic impacts, as well as low probability/catastrophic impacts.

Response: If there is a high probability of an impact occurring, an agency is probably not in the realm of incomplete or unavailable information; hence, the impacts would be analyzed under the ordinary requirements in the "Environmental consequences" section. This section includes the analysis of the environmental impacts of the proposal and the environmental impacts of alternatives to the proposed action. 40 CFR 1502.16.

Comment: The preamble to the draft amendment errs in asserting that case law has established a precedent to go beyond the rule of reason and it ignores subsequent Ninth Circuit case law which applies the rule of reason to find that agencies properly refused to prepare a worst case analysis.

Response: The Ninth Circuit decision referred to in this comment held that a worst case analysis was not required because the lead agency had obtained the information which it needed; thus there was no incomplete or unavailable information to trigger the worst case analysis requirement. *Friends of Endangered Species v. Jantzen*, 760 F.2d 976 (9th Cir. 1985).

Comment: The threshold triggering the agency's responsibility to comply with 40 CFR 1502.22(b) is actually the existence of incomplete or unavailable information. "Scientific credibility" is not a threshold, but rather a standard to be applied to the analysis once the duty to comply is triggered.

Response: This comment is correct.

Comment: The Council should make clear in the regulation itself that "scientific credibility" is the threshold which triggers the regulation.

Response: "Scientific credibility" is the criterion for the evidence which should be used to evaluate impacts in the face of incomplete or unavailable information. The trigger to comply with the regulation itself is incomplete or unavailable information.

Comment: If the phrase "worst case analysis" is unacceptable, the Council should consider replacing the term with

its functional equivalent, "spectrum of events".

Response: In the final regulation, a lead agency is required to evaluate "impacts". "Impacts" or "effects" (the two are synonymous under CEQ regulations) are the subject of analysis in an EIS, not "events". Indeed, the event to be anticipated is the proposed action itself.

Under the final regulation, agencies are required to evaluate impacts for which there is credible scientific evidence. In implementing this section, agencies will have to determine the appropriate range of analysis based on the unique facts of each particular proposal. In some cases, this may amount to a spectrum or range of impacts. In other cases, the scope of suggested impacts may be much more limited. Credible scientific evidence should determine the scope of the analysis, as opposed to a pre-determined number of impacts.

Comment: A careful reading of the case law reveals that neither the Ninth Circuit nor any other circuit has required worst case analysis in the absence of scientific opinion, evidence, and experience, as alleged in the draft preamble.

Response: Although CEQ was asked to consider this question by various persons who were concerned about the effect in future cases of possible interpretations of judicial decisions involving the worst case analysis requirement, CEQ has amended the regulation because it believes, based on further review, that the worst case analysis requirement is flawed, and the new requirements provide a better and more logical means of dealing with the analysis of impacts in the face of incomplete or unavailable information in an EIS.

Comment: Deletion of the worst case requirement will weaken environmental protection.

Response: This assertion is incorrect. The amended regulation establishes a better approach to dealing with the issue of incomplete and unavailable information in an EIS. It is a less sensational approach, but one which is a more careful and professional approach to the analysis of impacts in the face of incomplete or unavailable information. It should improve the quality of the EIS and the decision which follows, and, hence, strengthen environmental protection, in conformance with the purpose and goals of NEPA. 42 U.S.C. 4321, 4331. It will provide the public and the decisionmaker with an improved and more informed basis for the decision.

Comment: Before eliminating the term "worst case analysis", the Council should determine whether a worst case analysis is really impossible to prepare, or whether it is being resisted by agencies unwilling to learn because they do not want to admit the adverse impacts of their preferred programs.

Response: The Council does not maintain that a worst case analysis is impossible to prepare; however, it does view the worst case analysis requirement as a flawed technique to analyze impacts in the face of incomplete or unavailable information. The new requirement will provide more accurate and relevant information about reasonably foreseeable significant adverse impacts. To the extent that agencies were reluctant to discuss such impacts under the requirements of the original regulation, the amended regulation will not offer them an escape route.

Comment: The expressed need for clarification can be met by simply adding the "rule of reason" to the existing regulation.

Response: While the "rule of reason" is indeed added to the language of the regulation, CEQ believes that it is also important to amend the requirement to prepare a worst case analysis. The requirement that the analysis of impacts be based on credible scientific evidence is viewed as a specific component of the "rule of reason".

Comment: The proposal inappropriately removes the obligation to weigh the need for an action against its potential impacts.

Response: The regulation deletes this requirement because it is more properly accomplished at the conclusion of the entire NEPA process. A decisionmaker may, of course, decide to withdraw a proposal at any stage of the NEPA process for any reason, including the belief that the paucity of information undermines the wisdom of proceeding in the face of possibly severe impacts. However, such weighing and balancing in the middle of EIS preparation is a matter of policy, not law.

It is clear that, "one of the costs that must be weighed by decisionmakers is the cost of uncertainty—i.e., the costs of proceeding without more and better information." *Alaska v. Andrus*, 580 F.2d 465, 473 (D.C. Cir. 1978). However, that weighing takes place after completion of the EIS process, including the public comment process. Indeed, it would seem that the results of such a weighing process would naturally be more informed and wiser after the agency has completed the requirements of § 1502.22 to evaluate the potential impacts in the face of incomplete or unavailable

information. After completion of the EIS process, the responsible decisionmaker must then weigh the costs of proceeding in the face of uncertainty, "and where the responsible decision-maker has decided that it is outweighed by the benefits of proceeding with the project without further delay . . ." he may proceed to do so. *Id.* Similarly, he or she may also decide, with the benefit of the best possible information, to delay the project until further information is obtained or to cancel the project altogether.

Comment: CEQ should provide additional guidance about the new regulation, and oversee and actively monitor its implementation.

Response: CEQ plans to provide additional guidance about the new regulation in the form of an amended question 20 of *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*. CEQ also plans to actively monitor the implementation of the amended regulation, and evaluate its effectiveness after it has been implemented for a sufficient period of time to make a reasonable assessment.

Comment: It is unclear in which situations the new rule would apply, and what specific information it mandates. CEQ should apply the rule to actual or hypothetical situations and explain how the rule will apply and how the agencies' obligations differ under the new rule from those of the old. Request the Council provide such an analysis for particular fact patterns.

Response: CEQ plans to provide specific examples of the application of the rule to hypothetical situations in its guidance, following issuance of the final rule. The amended regulation will apply, of course, to the very same situations to which the original regulation applies; that is, the existence of incomplete or unavailable information related to significant adverse impacts on the human environment. The modifications to the regulation are designed to better articulate the precise requirements with which an agency must comply once it finds itself in this situation.

Comment: It is essential to mention the Committee of Scientists which was instrumental in development of the proposed regulation.

Response: The writer is probably referring to a proposed Advisory Committee on Worst Case Analysis, which would have included scientists. The Committee was never formed, and thus had no role in developing the amended regulation. Instead, the Council sought public comment through the process of asking questions in the

Advance Notice of Proposed Rulemaking.

Comment: CEQ should state that this analysis is to be done only in conjunction with an EIS, as opposed to an environmental assessment.

Response: Section 1502.22 is part of the set of regulations which govern the EIS process, as opposed to the preparation of an environmental assessment. *It is only appropriate to require this level of analysis when an agency is preparing an EIS.* The type of analysis called for in § 1502.22 is clearly much more sophisticated and detailed than the scope of an environmental assessment. Environmental assessments should be concise public documents which briefly provide sufficient analysis for determining whether to prepare an EIS; and aid in an agency's compliance with NEPA when no EIS is necessary. "Since the EA [environmental assessment] is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered". The Council's suggested page limit for environmental assessments are ten to fifteen pages. *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question 36a, 46 FR 18026, 18037 (1981).

Comment: CEQ should state clearly that the amendment is intended to repudiate and overrule the Ninth Circuit decisions on worst case analysis.

Response: The Ninth Circuit opinions are based on the requirements of former § 1502.22, or agency reflections thereof, and are inapplicable to this revision. The regulation is being amended to provide a better approach to the problem of analyzing environmental impacts in the face of incomplete or unavailable information. Because the requirements of the amended regulation are more clearly articulated and manageable than the "worst case analysis" requirement, CEQ expects that there will be less litigation based on § 1502.22 than the former version of § 1502.22 interpreted by the Ninth Circuit.

Comment: CEQ should withdraw the guidance contained in the 1981 publication, *Forty Most Asked Questions about CEQ's NEPA Regulations*, relating to worst case analysis.

Response: That guidance is withdrawn by this publication.

Comment: CEQ has not complied with its duties to assert its substantive powers over federal agencies to comply with NEPA, to coordinate programs, and to issue instructions to agencies, but has instead succumbed to pressure from defendant agencies and their attorneys

to amend the regulation. Further, CEQ is collaterally estopped from overruling the Ninth Circuit decisions.

Response: CEQ manifests its oversight of the NEPA process in a number of ways on a daily basis; for example, review of agency NEPA procedures, resolving referrals of proposals of major federal actions, and assisting parties on an individual basis in resolving difficulties with the NEPA process. The requirements of the amended regulation are a more productive use of the agencies' resources than attempting to prepare a worst case analysis. Collateral estoppel is a doctrine by which a party may be barred from relitigating a question decided in a prior case. It does not bar an agency from changing a regulation that the courts have interpreted.

Comment: Agencies should be required to present an evaluation of the existing evidence of the most likely outcome.

Response: Step four of subsection (b) requires agencies to evaluate potential impacts. The lead agency may wish to specify which of the impacts are the most likely to occur, and the Council encourages inclusion of such data when it is reliable information which would be useful to the decisionmaker and the public.

Comment: Case law required worst case analysis prior to adoption of 40 CFR 1502.22.

Response: This assertion is incorrect. Case law prior to the adoption of 40 CFR 1502.22 did require agencies to make a "good faith effort . . . to describe the reasonably foreseeable environmental impact(s)" of the proposal and alternatives to the proposal in the face of incomplete or unavailable information, consistent with the "rule of reason". *Scientists' Institute for Public Information v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (D.C. Cir. 1973). The "worst case analysis" requirement was a technique adopted by CEQ as a means of achieving the goals enunciated in such case law. The "worst case" requirement itself, however, was clearly a "major innovation". *Comment, New Rules for the NEPA Process: CEQ Establishes Uniform Procedures to Improve Implementation*, 9 Env't'l L.Rep. 10,005, 10,008 (1979). The U.S. Court of Appeals for the Fifth Circuit, interpreting the "worst case analysis" requirement for the first time in a litigation context, recognized that it was an innovation of CEQ. *Sierra Club v. Sigler*, 695 F.2d 957, 972 (5th Cir. 1983). CEQ has since observed difficulties with the technique of "worst case analysis" and is replacing it with a better

approach to the problem of incomplete or unavailable information in an EIS.

List of Subjects in 40 CFR Part 1502

Environmental impact statements.

PART 1502—[Amended].

40 CFR Part 1502 is amended as follows:

1. The authority citation for Part 1502 continues to read:

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 *et seq.*), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

2. Section 1502.22 is revised to read as follows:

§ 1502.22 Incomplete or unavailable information.

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

(a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

(b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure

conjecture, and is within the rule of reason.

(c) The amended regulation will be applicable to all environmental impact statements for which a Notice of Intent (40 CFR 1508.22) is published in the **Federal Register** on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

Dated: April 21, 1986.

A. Alan Hill,
Chairman.

[FR Doc. 86-9270 Filed 4-24-86; 8:45 am]

BILLING CODE 3125-01-M
